Eastern Nile Information Management System - Quick guide

Information Management System

Scope of the tool

It consists of four excel models, one per each EN subbasin. They have been developed separately and provided slightly different information, but they maintain a similar structure. They provide simple visualization and understanding of the whole river systems providing information about irrigation, hydrometeorological data, dams and reservoirs.

It represents the most complete toolkit among the ones analysed, from which is possible to retrieve a large amount of data. Indeed, for each basin it is present a database for dams, irrigation, gauging stations, meteorology, water balance. Moreover, specific characteristics are also present at detailed subbasins and streams level.

Main functions and structure

For each subbasin of the Nile River a different tool is provided. Therefore four excel tools are present.

In the next paragraph a description of the toolkit regarding the Main Nile is provided as an example. The other subbasins toolkits have the same main functions and a similar structure.

Figure 111: Homepage of the Main Nile Information Management System

The Model of the Main Nile is divided into seven sections.

General information

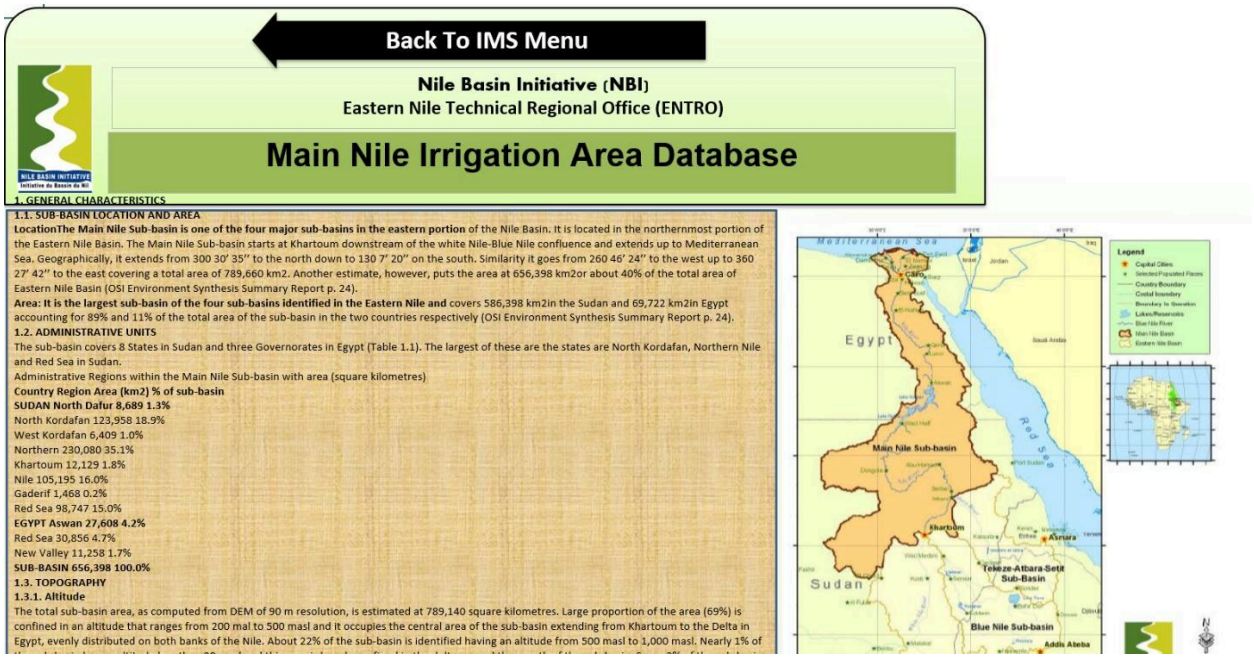

Figure 112: General Information section of the Main Nile Information Manegement System

This section provides general information about the Main Nile subbasin including

- Subbasin Location and Area
- Administrative units
- Topography
- Climate
- Humidity

Moreover it contains many maps that regard different topographic and climatic parameters, such as rainfall, temperature, elevation.

System Schematic

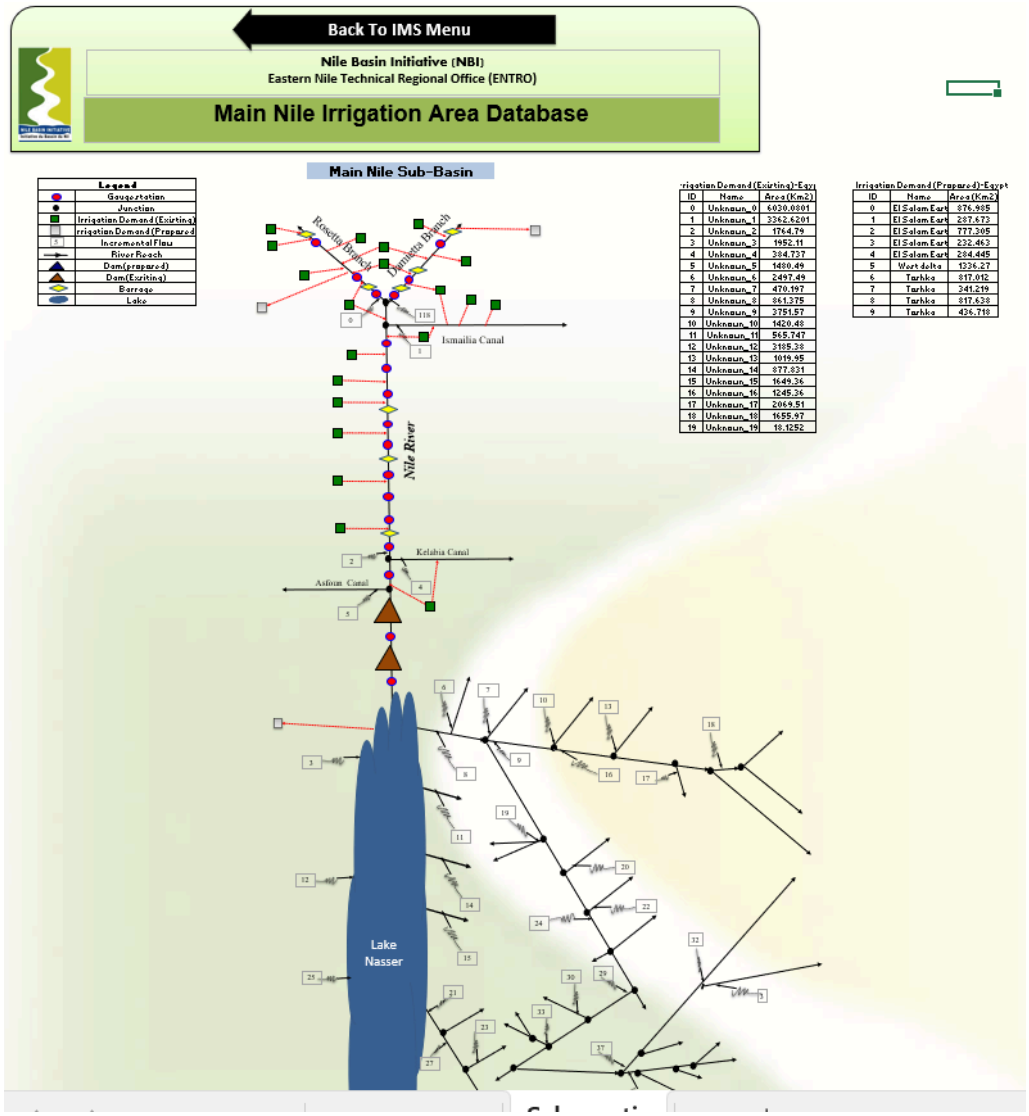

Figure 113: System Schematic section of the Main Nile Information Manegement System

This section provides a very detailed scheme of the Main Nile subbasin, that contains all the following information

- Gauging Stations
- Junctions
- Existing Irrigation schemes
- Proposed Irrigation schemes
- Flows
- River Reaches
- Existing Dams
- Proposed Dams
- Barrages

- Lakes

Irrigation Demand

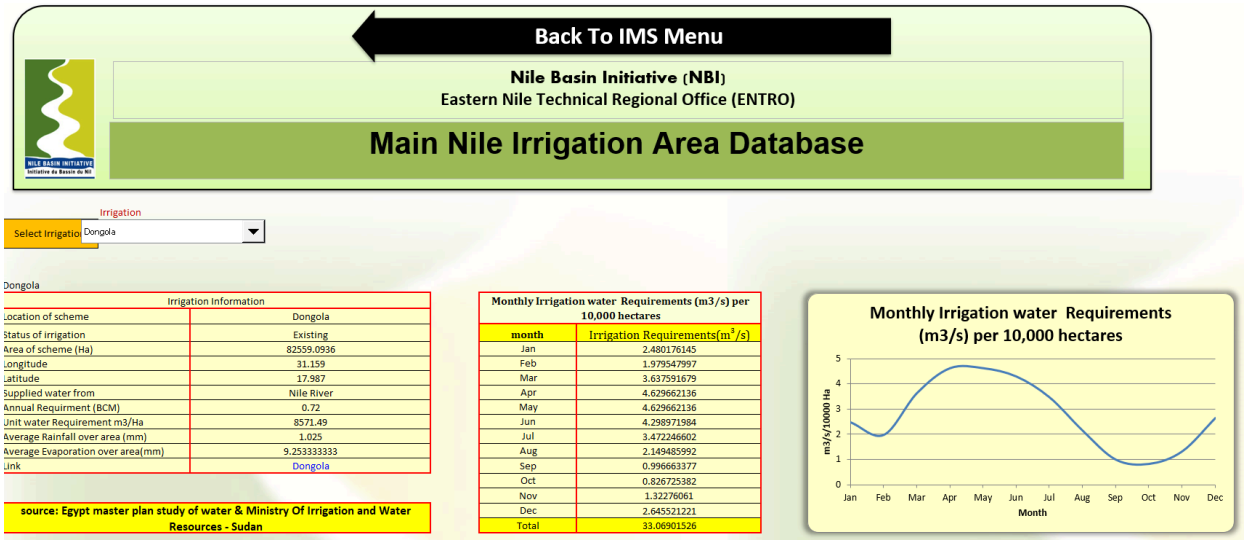

Figure 114: Irrigation Demand section of the Main Nile Information Manegement System

This section provides various tables and information about the irrigation schemes in the subbasin.

In particular, the area of each irrigation scheme is indicated, together with the main characteristics and the irrigation water requirement for each month. Moreover, a map of the irrigation scheme is shown.

Hydrology

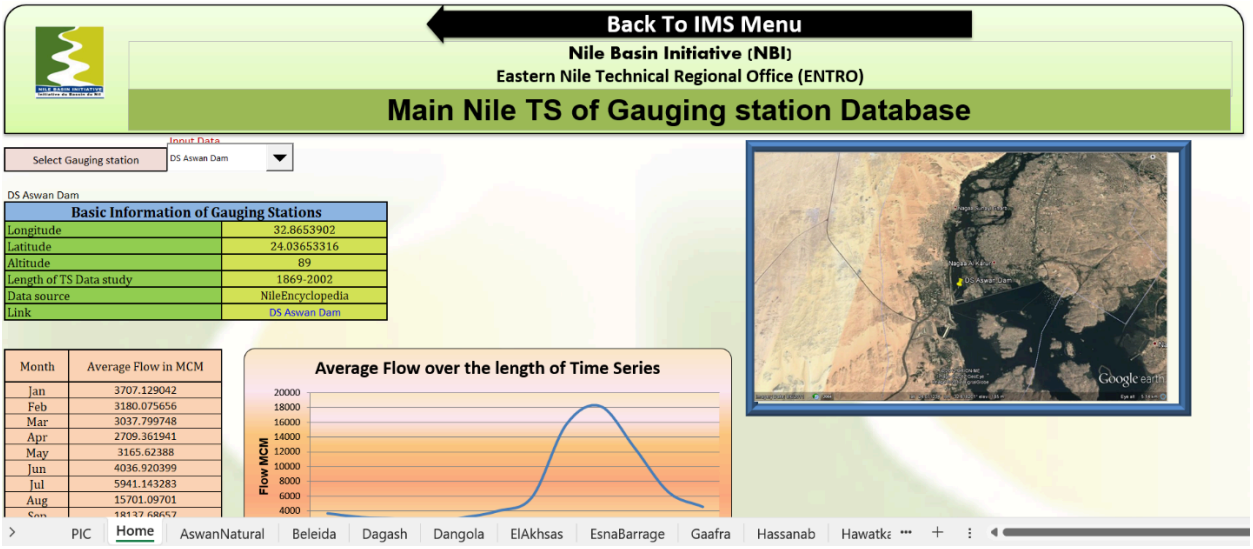

Figure 115: Hydrology section of the Main Nile Information Manegement System

This section provides various tables and information about hydrology in the subbasin.

In particular, the flows of different gauging stations in the subbasin are reported, on a monthly average timestep.

Dams and Reservoirs

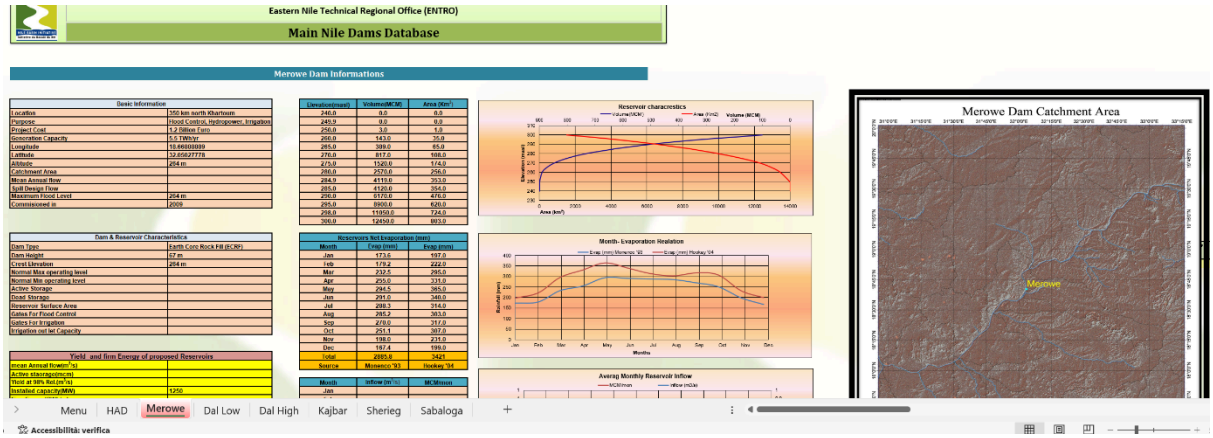

Figure 116: Climate section of the Main Nile Information Manegement System

This section provides various tables and information about the existing and proposed dams in the subbasin.

- Basic Information
- Dam and Reservoir characteristics

- Yield and energy data
- Flooding analysis
- Sediment estimate
- Reservoir Simulation results
- Area Storage Elevation Data
- Rainfall Evaporation Relation
- Reservoir Inflow
- Elevation Rule
- Release Rule
- Water demand
- Power plant discharge
- Conservation storage
- Storage Zones
- Target Releases

Climate

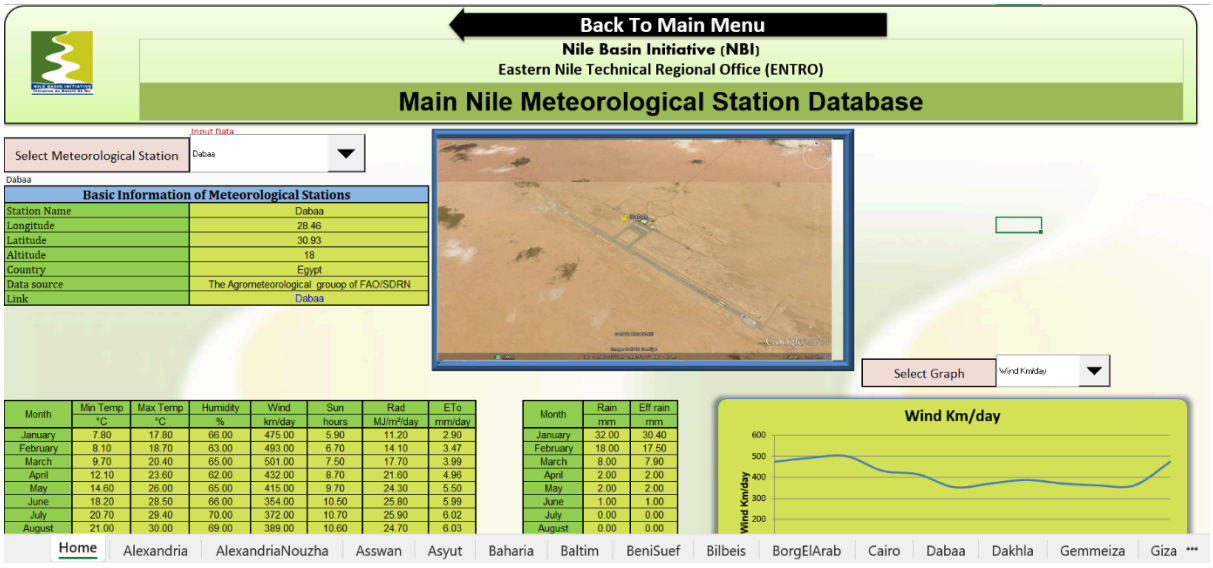

Figure 117: Climate section of the Main Nile Information Manegement System

This section provides various tables and information about the climate in the subbasin.

- In particular it is possible to see information detected by many meteorological stations, including temperature, rainfall, evapotranspiration, radiation etc.

Water Balance

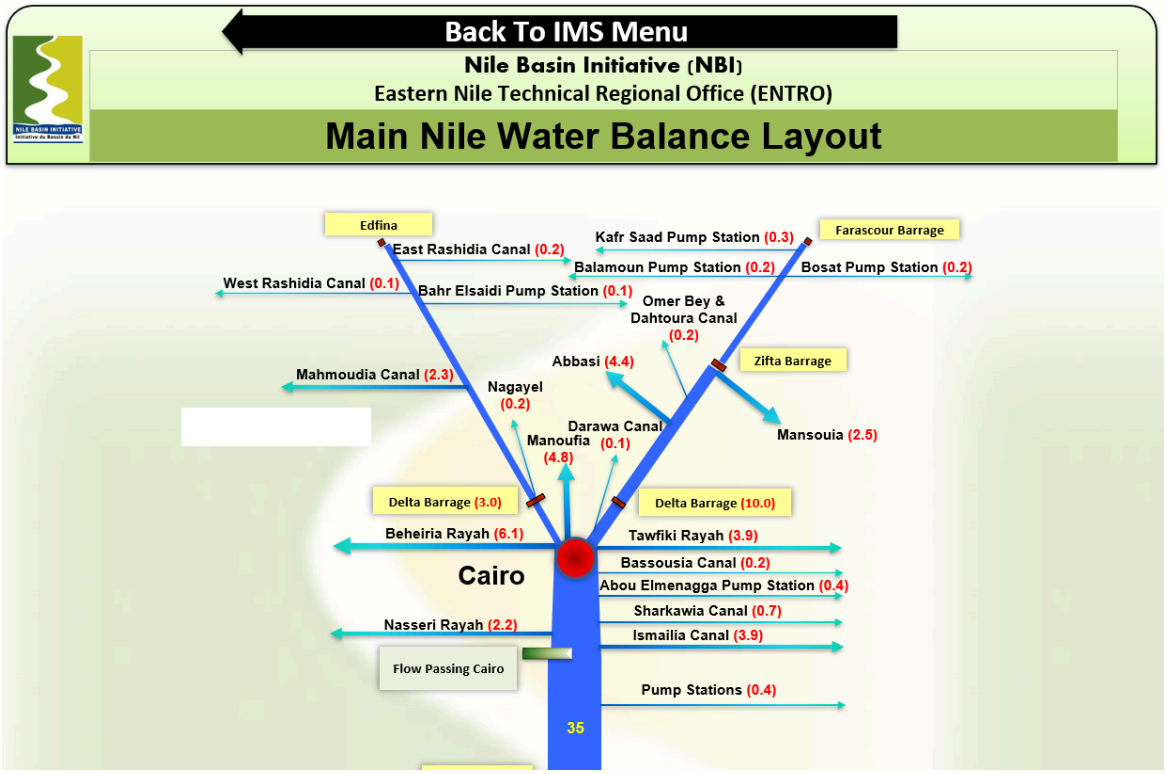

Figure 118: Water Balance section of the Main Nile Information Manegement System

This section provides a water balance for the subbasin. The water balance takes into account the data described in the previous sections, the flow in the rivers, the irrigation water demands of the irrigation schemes and the data in the dams and reservoir section.